## ABSTRACT

The system generates novel views by an improved optical flow method, which uses multiple hypotheses. This method starts with the selection of a first image and a second image from a plurality of digital images. Then the second image is separated into discrete sections and the first image is separated into a number of features. It is hypothesized that each feature may map into any of the discrete sections of the second image. A direct optical flow method is used to find the local optimal solution for each feature in each hypothesized section. Finally a globally optimal solution is selected for each feature from among the local solutions.